IN THE CLAIMS

1.   (Currently amended) A method of operating a network access server, the method comprising:

examining, using a first processor in the network access server, one or more header fields from one or more headers of a received egress packet;

the first processor determining, based on the examination of the header fields by the first processor, a second processor integrated into a line interface card responsible for processing that egress packet, the second processor selected from a plurality of forwarding processors in the network access server; and

passing the egress packet to the second processor.

2.   (Currently amended) The method of claim 1, further comprising: A method of operating a network access server, the method comprising:

examining, using a first processor in the network access server, one or more header fields from one or more headers of a received egress packet;

determining, based on the examination of the header fields, a second processor responsible for processing that egress packet, the second processor selected from a plurality of forwarding processors in the network access server;

passing the egress packet to the second processor;

maintaining a master routing table at a route switch controller within the network access server;

maintaining a distributing routing table at the first processor, the distributing routing table containing entries from the master routing table that allow determination of the appropriate second processor for egress packets; and

maintaining a forwarding routing table at each forwarding processor, the forwarding routing table for a particular forwarding processor containing entries from the master routing

table that allow that forwarding processor to process packets for network access sessions assigned to that processor.

3.   (Original) The method of claim 2, wherein maintaining a distributing or forwarding routing table comprises the route switch controller sending routing table updates to the processor associated with that routing table, and that processor updating that routing table.

4.   (Original) The method of claim 2, wherein the distributing routing table comprises a voice port table and a tunnel session table, wherein determining a second processor comprises, when the egress packet is addressed to the access server itself: determining if the egress packet is a voice packet or a tunnel packet;

when the egress packet is a voice packet, looking up the second processor in the voice port table; and

when the egress packet is a tunnel packet, looking up the second processor in the tunnel session table.

5.   (Original) The method of claim 2, further comprising, when the second processor cannot be determined from the distributing routing table, punting the packet to the route switch controller.

6.   (Original) The method of claim 1, wherein passing the egress packet to the second processor comprises prepending a switching header to the data packet, passing the egress packet to a switching fabric, and switching the egress packet through the switching fabric to a port connected to the second processor, the switching fabric using the switching header to route the egress packet.

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7.   (Original) A data network access server comprising:

multiple ingress ports, each ingress port having the capability to support data communication over one or more access sessions associated with that port;

at least one egress port to facilitate packet data communication with a data network;

a plurality of forwarding engines to process data packets received by the access server and forward processed packets toward an appropriate ingress or egress port, each forwarding engine having the capability to support data communication over a plurality of ingress port access sessions; and

a distribution engine to examine header data for data packets received at the egress port and to distribute each such packet to the forwarding engine supporting data communication for the ingress port access session associated with that packet.

8.   (Original) The access server of claim 7, further comprising a switching fabric in communication with each of the forwarding engines and with the distribution engine, the distribution engine distributing data packets to the forwarding engines by passing each data packet to the switching fabric, along with a switching fabric identifier that allows switching of that data packet across the switching fabric to the forwarding engine supporting data communication for the ingress port access session associated with that data packet.

9.   (Original) The access server of claim 8, wherein the switching fabric comprises a dedicated interface for each forwarding engine.

10.   (Original) The access server of claim 9, further comprising:

a plurality of line card connection points, wherein a variable number of line cards can

be connected to the access server, each line card selected from the group of line cards

comprising an ingress port/forwarding engine module, a signal processing

resource/forwarding engine module, and an ingress port/signal processing

resource/forwarding engine module; and

a backplane comprising a time-domain multiplexed bus for communication of time-

domain multiplexed data between line cards, and a dedicated packet data connection for each

line card connection point, connecting that line card connection point to one of the dedicated

interfaces of the switching fabric.

11.   (Original) The access server of claim 7, further comprising a route switch controller

to manage access sessions associated with the ingress ports.

12.   (Original) The access server of claim 11, the route switch controller having the

capability to maintain a data packet master routing table and provide routing table updates

from the master routing table to the forwarding engines and the distribution engine.

13.   (Original) The access server of claim 11, the route switch controller comprising a

default forwarding engine, each of the other forwarding engines and the distribution engine

having the capability to send a data packet to the default forwarding engine when the

appropriate route for that data packet is unknown to the forwarding or distribution engine

attempting to route that data packet.

14.   (Original) The access server of claim 7, the distribution engine having the capability

to distribute data packets, tunneled packets for a tunnel session terminated at the access

server, and voice packets for a packet voice session terminated at the access server, the

distribution engine comprising a classifier to determine, from a data packet's header data,

whether that data packet can be classified as a tunneled packet or a voice packet.

15.   (Original) A data network access server comprising:

data packet communication means for interfacing with a packet data network;

multiple network access means for communicating data associated with a plurality of

network access sessions across an access network;

multiple forwarding means for processing data packets and then forwarding those data

packets toward either the data packet communication means, for ingress packets, or toward

one of the network access means, for egress packets, each forwarding means associable with

multiple network access sessions and at least one network access means and performing data

packet processing and forwarding related to those associations; and

distributing means for distributing data packets received from the packet data network

to the forwarding means responsible for processing those packets, the distributing means

determining the forwarding means responsible for processing a particular data packet by

examining one or more header fields from one or more headers of that data packet.

16.   (Original) The data network access server of claim 15, further comprising route

switch control means for managing network access sessions and for supplying the distributing

means with information to match data packets with their associated forwarding means.

17.   (Currently amended) An apparatus comprising a computer-readable medium

containing computer instructions that, when executed, cause multiple processors to perform a

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method for processing data packets in a network access server, the method comprising, for an egress packet:

examining, using a first processor in the network access server, one or more header fields from one or more headers of the egress packet;

determining, based on the examination of the header fields, a second processor responsible for processing that egress packet, the second processor selected from a plurality of forwarding processors integrated into a plurality of line interface cards in the network access server;

passing the egress packet to the second processor;

preparing the egress packet using the second processor; and

forwarding the egress packet, using the second processor, towards an ingress port access network port associated with that packet.

18.   (Original) The apparatus of claim 17, wherein the method further comprises, for an ingress packet received at its associated forwarding processor:

preparing the ingress packet, using the second processor, for transport across a data network; and

forwarding the ingress packet, using the second processor, toward a packet data network port.

19.   (Currently amended) ~~The apparatus of claim 17, wherein the method further comprises:~~ An apparatus comprising a computer-readable medium containing computer instructions that, when executed, cause multiple processors to perform a method for processing data packets in a network access server, the method comprising, for an egress packet:

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examining, using a first processor in the network access server, one or more header fields from one or more headers of the egress packet;

determining, based on the examination of the header fields, a second processor responsible for processing that egress packet, the second processor selected from a plurality of forwarding processors in the network access server;

passing the egress packet to the second processor;

preparing the egress packet using the second processor;

forwarding the egress packet, using the second processor, towards an ingress port access network port associated with that packet;

maintaining a master routing table at a route switch controller within the network access server, the table capable of storing associations for multiple network access sessions, each association identifying an access network port and a forwarding processor with a network access session;

maintaining a distributing routing table at the first processor, the distributing routing table containing entries from the master routing table that allow determination of the appropriate second processor for egress packets; and

maintaining a forwarding routing table at each forwarding processor, the forwarding routing table for a particular forwarding processor containing entries from the master routing table that allow that forwarding processor to forward packets for network access sessions assigned to that processor.

20.   (Original) The apparatus of claim 19, wherein maintaining a distributing or forwarding routing table comprises the route switch controller sending routing table updates to the processor associated with that routing table, and that processor updating that routing table.

21. (Original) The apparatus of claim 19, wherein the distributing routing table comprises a voice port table and a tunnel session table, wherein determining a second processor comprises, when the egress packet is addressed to the access server itself:

determining if the egress packet is a voice packet or a tunnel packet;

when the egress packet is a voice packet, looking up the second processor in the voice port table; and

when the egress packet is a tunnel packet, looking up the second processor in the tunnel session table.

22. (Original) The apparatus of claim 19, the method further comprising, when the second processor cannot be determined from the distributing routing table, the first processor punting the packet to the route switch controller.

23. (Original) The apparatus of claim 17, wherein passing the egress packet to the second processor for processing comprises prepending a switching header to the egress packet, passing the egress packet to a switching fabric, and routing the egress packet through the switching fabric to a port connected to the second processor, the switching fabric using the switching header to route the data packet.

24. (New) The method of claim 1 wherein the line interface card serves as an ingress port for the egress packet.

25. (New) The data access server of claim 7 wherein the plurality of forwarding engines are located in the multiple line interface cards.

26.   (New) The method of claim 34 wherein the line interface card serves as an ingress port for the egress packet.

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